

AMENDMENTS TO THE CLAIMS

1 (Currently amended). A radar system comprising:

reception-signal-strength-distribution ~~detecting means for transmitting~~
detector which transmits a beam of detection radio waves having a predetermined
 azimuth width extending from the left to the right of a predetermined azimuth at the
 center, receives ~~receiving~~ a reflected wave from a target, ~~changing~~ changes a central
 azimuth of the beam, and ~~detecting~~ detects the distribution of reception signal strengths
 at predetermined angular intervals and for each predetermined distance; and

target-central-azimuth ~~detecting means for detecting~~ detector which
detects an azimuth corresponding to a vertex of an approximate isosceles triangle as a
 central azimuth of the target on the basis of a beam azimuth width and reception signal
 strengths at two azimuths that are a central-azimuth-detecting azimuth width away
 from each other and located on the left and right of an azimuth corresponding to a
 maximum value in the reception signal strength distribution within a distance to the
 target, the approximate isosceles triangle having the beam azimuth width as its base
 and having two points representing the reception signal strengths on its two oblique
 sides when the reception signal strength distribution associated with changes in
 azimuth is expressed in rectangular coordinates.

2 (Currently amended). The radar system according to Claim 1, wherein the
 target-central-azimuth ~~detecting means~~ detector further comprises ~~means for defining~~
defines a plurality of central-azimuth-detecting azimuth widths, ~~detecting~~ detects an
 azimuth corresponding to a vertex of an approximate isosceles triangle with respect to
 each of the central-azimuth-~~detected~~ detecting azimuth widths, and performs
~~performing~~ weighted averaging on the detected azimuths.

3 (Currently amended). A radar system comprising:

reception-signal-strength-distribution ~~detecting means for transmitting~~
detector which transmits a beam of detection radio waves having a predetermined
azimuth width extending from the left to the right of a predetermined azimuth at the
center, receiving a reflected wave from a target, ~~changes~~ ~~changing~~ a central azimuth of
the beam, and detects ~~detecting~~ the distribution of reception signal strengths at
predetermined angular intervals and for each predetermined distance; and

target-central-azimuth ~~detecting means for detecting~~ detector which
detects an azimuth corresponding to a vertex of an approximate isosceles triangle as a
central azimuth of the target on the basis of a beam azimuth width, a reception signal
strength at an azimuth corresponding to a maximum value in the reception signal
strength distribution within a distance to the target, and a higher reception signal
strength of two reception signal strengths at two azimuths that are respectively
separated by a central-azimuth-detecting azimuth width to the left and right sides from
the azimuth corresponding to the maximum value, the approximate isosceles triangle
having the beam azimuth width as its base and having two points representing the
reception signal strengths on its two oblique sides when the reception signal strength
distribution associated with changes in azimuth is expressed in rectangular
coordinates.

4 (Currently amended). A radar system comprising:

reception-signal-strength-distribution ~~detecting means for transmitting~~
detector which transmits a beam of detection radio waves having a predetermined
azimuth width extending from the left to the right of a predetermined azimuth at the

center, ~~receiving~~ receives a reflected wave from a target, ~~changes~~ changing a central azimuth of the beam, and ~~detects~~ detecting the distribution of reception signal strengths at predetermined angular intervals and for each predetermined distance; and

target-central-azimuth ~~detecting means for detecting~~ detector which detects an azimuth corresponding to a vertex of an approximate isosceles triangle as a central azimuth of the target on the basis of reception signal strengths at a plurality of azimuths that are predetermined central-azimuth-detecting azimuth widths away from and are located on the left and right sides of an azimuth corresponding to a maximum value in the reception signal strength distribution within a distance to the target, the approximate isosceles triangle having a plurality of points representing the reception signal strengths at the plurality of azimuths on its two oblique sides when the reception signal strength distribution associated with changes in azimuth is expressed in rectangular coordinates.

5 (Currently amended). The radar system according to Claim 4, further comprising ~~means for performing processing~~ a processor which, if the length of the base of the approximate isosceles triangle is smaller than the beam azimuth width of a main lobe of the beam, ~~causes such that~~ an azimuth corresponding to the vertex of the approximate isosceles triangle is not to be treated as a central azimuth of the target.

6 (Currently amended). A radar system comprising:

reception-signal-strength-distribution ~~detecting means for transmitting~~ detector which transmits a beam of detection radio waves having a predetermined azimuth width extending from the left to the right of a predetermined azimuth at the center, ~~receives~~ receiving a reflected wave from a target, ~~changes~~ changing a central

azimuth of the beam, and detects ~~detecting~~ the distribution of reception signal strengths at predetermined angular intervals and for each predetermined distance; and

target-central-azimuth ~~detecting means for detecting~~ detector which detects an azimuth corresponding to a vertex of an approximate isosceles triangle as a central azimuth of the target on the basis of a reception signal strength at an azimuth corresponding to a maximum value in the reception signal strength distribution within a distance to the target and also, on the basis of a lower reception signal strength of two reception signal strengths at two azimuths that are respectively separated by a central-azimuth-detecting azimuth width to the left and right sides from the azimuth corresponding to the maximum value or a plurality of reception signal strengths at a plurality of azimuths located on the same side as the azimuth corresponding to the lower reception signal strength, the approximate isosceles triangle having a plurality of points representing the reception signal strengths on one of its oblique sides and having the beam azimuth width as its base, when the reception signal strength distribution associated with changes in azimuth is expressed in rectangular coordinates.

7 (Currently amended). A radar system comprising:

reception-signal-strength-distribution ~~detecting means for transmitting~~ detector which transmits a beam of detection radio waves having a predetermined azimuth width extending from the left to the right of a predetermined azimuth at the center, receives ~~receiving~~ a reflected wave from a target, changes ~~changing~~ a central azimuth of the beam, and detects ~~detecting~~ the distribution of reception signal strengths at predetermined angular intervals and for each predetermined distance; and

target-central-azimuth ~~detecting means for detecting~~ detector which detects an azimuth corresponding to a vertex of an approximate isosceles triangle as a central

azimuth of the target on the basis of a reception signal strength at an azimuth corresponding to a maximum value in the reception signal strength distribution within a distance to the target and one or a plurality of reception signal strengths at one or a plurality of azimuths that are one or a plurality of central-azimuth-detecting azimuth widths inside (left or right) the azimuth corresponding to the maximum value, the approximate isosceles triangle having a plurality of points representing the reception signal strengths on one of its oblique sides and having the beam azimuth width as its base when the reception signal strength distribution associated with changes in azimuth is expressed in rectangular coordinates.

8 (Currently amended). A radar system comprising:

~~reception-signal-strength-distribution-detecting means for transmitting~~
detector which transmits a beam of detection radio waves having a predetermined azimuth width extending from the left to the right of a predetermined azimuth at the center, receives ~~receiving~~ a reflected wave from a target, changes ~~changing~~ a central azimuth of the beam, and detects ~~detecting~~ the distribution of reception signal strengths at predetermined angular intervals and for each predetermined distance; and

~~target-central-azimuth detecting means for detecting~~ detector which detects an azimuth corresponding to a vertex of an approximate isosceles triangle as a central azimuth of the target, if an azimuth at which a reception signal reaches its maximum value is located at an end (left or right) of a detection azimuth angle range, and if ~~the a~~ a first condition that the ratio of an azimuth width obtained by subtracting a central-azimuth-detecting azimuth width from half the beam azimuth width to half the beam azimuth width is smaller than the ratio of a reception signal strength at an azimuth that is a central-azimuth-detecting azimuth width inside (left or right) an outermost azimuth corresponding to a maximum value in the reception signal strength

distribution within a distance to the target to the outermost azimuth corresponding to the maximum value is satisfied, on the basis of the signal strength at the outermost azimuth corresponding to the maximum value, the reception signal strength at the azimuth that is a central-azimuth-detecting azimuth width inside the outermost azimuth, and the beam azimuth width, the approximate isosceles triangle having the beam azimuth width as its base and having two points representing the reception signal strengths on its two oblique sides when the reception signal strength distribution associated with changes in azimuth is expressed in rectangular coordinates, and if the ~~above-described~~ first condition is not satisfied, on the basis of a reception signal strength at an azimuth corresponding to a maximum value in the reception signal strength distribution within a distance to the target and one or a plurality of reception signal strengths at one or a plurality of azimuths that are one or a plurality of central-azimuth-detecting azimuth widths inside (left or right) the azimuth corresponding to the maximum value, the approximate isosceles triangle having a plurality of points representing the reception signal strengths on one of its oblique sides and having the beam azimuth width as its base when the reception signal strength distribution associated with changes in azimuth is expressed in rectangular coordinates.

9 (Currently amended). The radar system according to Claim ~~6 or~~ 7, further comprising reception-signal-strength-distribution ~~correcting means for subtracting~~ corrector which subtracts, if the reception signal strength distribution within a distance to the target extends further than the beam azimuth width in the azimuth direction, a distribution corresponding to the isosceles triangle having the azimuth of the target detected by the target-central-azimuth detecting means as its vertex and having the beam azimuth width as its base from the reception signal strength distribution.

10 (Currently amended). The radar system according to Claim 9, wherein the reception-signal-strength-distribution ~~correcting means~~ corrector sequentially subtracts a distribution for the isosceles triangle corresponding to a target whose central azimuth is detected from the reception signal strength distribution.

11 (Currently amended). The radar system according to ~~any one of Claims 1 to 3 and 6 to 10~~ Claim 9, wherein the reception-signal-strength-distribution ~~detecting means~~ detector varies the central azimuth of the beam within a detection azimuth angle range, and the target-central-azimuth ~~detecting means~~ detector further ~~comprises means for varying~~ varies the central-azimuth-detecting azimuth width according to an azimuth corresponding to a maximum value in the reception signal strength distribution within a distance to the target.

12 (New). The radar system according to Claim 6, further comprising reception-signal-strength-distribution corrector which subtracts, if the reception signal strength distribution within a distance to the target extends further than the beam azimuth width in the azimuth direction, a distribution corresponding to the isosceles triangle having the azimuth of the target detected by the target-central-azimuth detecting means as its vertex and having the beam azimuth width as its base from the reception signal strength distribution.

13 (Currently amended). The radar system according to Claim 12, wherein the reception-signal-strength-distribution corrector sequentially subtracts a distribution for the isosceles triangle corresponding to a target whose central azimuth is detected from the reception signal strength distribution.

14 (New). The radar system according to Claim 11, wherein the reception-signal-strength-distribution detector varies the central azimuth of the beam within a detection azimuth angle range, and the target-central-azimuth detector further varies the central-azimuth-detecting azimuth width according to an azimuth corresponding to a maximum value in the reception signal strength distribution within a distance to the target.

15 (New). The radar system according to Claim 8, wherein the reception-signal-strength-distribution detector varies the central azimuth of the beam within a detection azimuth angle range, and the target-central-azimuth detector further varies the central-azimuth-detecting azimuth width according to an azimuth corresponding to a maximum value in the reception signal strength distribution within a distance to the target.

16 (New). The radar system according to Claim 7, wherein the reception-signal-strength-distribution detector varies the central azimuth of the beam within a detection azimuth angle range, and the target-central-azimuth detector further varies the central-azimuth-detecting azimuth width according to an azimuth corresponding to a maximum value in the reception signal strength distribution within a distance to the target.

17 (New). The radar system according to Claim 6, wherein the reception-signal-strength-distribution detector varies the central azimuth of the beam within a detection azimuth angle range, and the target-central-azimuth detector further varies the central-azimuth-detecting azimuth width according to an azimuth corresponding to a maximum value in the reception signal strength distribution within a distance to the target.

18 (New). The radar system according to Claim 3, wherein the reception-signal-strength-distribution detector varies the central azimuth of the beam within a detection azimuth angle range, and the target-central-azimuth detector further varies the central-azimuth-detecting azimuth width according to an azimuth corresponding to a maximum value in the reception signal strength distribution within a distance to the target.

19 (New). The radar system according to Claim 2, wherein the reception-signal-strength-distribution detector varies the central azimuth of the beam within a detection azimuth angle range, and the target-central-azimuth detector further varies the central-azimuth-detecting azimuth width according to an azimuth corresponding to a maximum value in the reception signal strength distribution within a distance to the target.

20 (New). The radar system according to Claim 1, wherein the reception-signal-strength-distribution detector varies the central azimuth of the beam within a detection azimuth angle range, and the target-central-azimuth detector further varies the central-azimuth-detecting azimuth width according to an azimuth corresponding to a maximum value in the reception signal strength distribution within a distance to the target.